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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Donald J. Glaser

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EXAMINER

JONES, PRENELL P

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,023

Applicant(s)

GLASER ET AL.

Examiner

Prenell P. Jones

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-70 is/are pending in the application.
- 4a) Of the above claim(s) _____
is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-46 and 57-70 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,8,9 and 47 is/are rejected.
- 7) ☐ Claim(s) 6,7,10 and 48-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2 and 4-70 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murdock (US PAT 6,301,225) in view of Jones et al (US PAT 4,633,246) and Ogawa (US PAT 5,345,437).

Regarding claims 1, 2 and 4, Murdock discloses a single input multiplexer which output a plurality of separate output signals via plurality of corresponding outputs and their associated communication paths (plurality of main paths), such as amplifier channels, data is routed through amplifier channels of redundancy rings (redundancy path) and are coupled by controllable output switches, each redundancy ring comprises of a plurality of paths that amplify signals derived from the outputs of the input multiplexer (col. 3, line 15-17, line 21-27, line 35-37). Murdock is silent on transmission paths/channels selected into groups of standard transmission channels and a redundant transmission channel, a remote circuit to selectively switch a redundant transmission path for a faulty transmission path at a subscriber. In a switching protection system, Jones discloses a TDM ring that interconnect multiple nodes whereby the nodes containing multiplexers are interconnected via a main transmission path and a standby/redundant transmission path wherein the architecture further includes switching/relay circuits for switch paths when notification is received from a remote alarm/remote circuit (Abstract, Figs. 2-4, col. 5, line 5-67, col. 6, line 44 thru col. 7, line 40, col. 8, line 38-67, col. 9, line 19-54), and Ogawa discloses a multiplexing control system that includes communication associated with a plurality of standard transmission channels/standard channels and a secondary channel/redundant channel, wherein the a select group of primary channels (A, B, C and D) are associated with a secondary channel (backup/redundant channel), secondary channel is selected to send information when primary channel is abnormal/faulty (col. 2, line 20-42, col. 3, line 20-38, line 54-67, col. 5, line 57-67, col. 7, line 44 thru col. 8, line 40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to motivated to implement a remote circuit to selectively switch a redundant transmission path for a faulty transmission path at a subscriber/user as taught by Jones with the teachings of Murdock for the purpose of further managing a signal transmission system so as to provide coherent

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information between transmitter and receiver. In addition, it would have been further obvious to one of ordinary skill in the art to utilize a plurality of primary channels associated with defined characteristic (grouping) and a secondary channel associated with defined characteristics as taught by Ogawa with the combined teachings of Jones and Murdock as to further manage resources.

2. Regarding claim 5, as indicated above, the combined are of Murdock (US PAT 6,301,225) in view of Jones et al (US PAT 4,633,246) and Ogawa (US PAT 5,345,437) discloses managing transmission associated with protection switching wherein a group of 4 primary channels and a secondary channel is utilized. Although Murdock, Jones and Ogawa fail to discloses using 5 primary channels/standard transmission lines an a secondary channel/redundant transmission line, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the number of primary channels to group together with respect to the size or system required usage for the purpose of providing adequate resources to system users.

3. Claims 8, 9 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murdock (US PAT 6,301,225) in view of Jones et al (US PAT 4,633,246) and Cadieux et al (US PAT 5,581,228).

Regarding claim 8 and 9, Murdock discloses utilizing high-power transmission in a redundant environment wherein the architecture includes a single input multiplexer which output a plurality of separate output signals via plurality of corresponding outputs and their associated communication paths, such as amplifier channels, data is routed through amplifier channels of

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redundancy rings and are coupled by controllable output switches, each redundancy ring comprises of a plurality of paths that amplify signals derived from the outputs of the input multiplexer (col. 3, line 15-17, line 21-27, line 35-37) and Jones discloses a TDM ring that interconnect multiple nodes whereby the nodes containing multiplexers are interconnected via a main transmission path and a standby/redundant transmission path wherein the architecture further includes switching/relay circuits for switch paths when notification is received from a remote alarm/remote circuit (Abstract, Figs. 2-4, col. 5, line 5-67, col. 6, line 44 thru col. 7, line 40, col. 8, line 38-67, col. 9, line 19-54). Murdock and Jones are silent on a DS3 digital input signal and a DS1 digital output signal. In a communication system that utilizes protection switching, Cadieux discloses performance monitoring in a protection-switching environment, wherein fault protection utilizes secondary/redundant paths (Abstract), incoming signals are DS3 and DS1 are outgoing signal, and utilizing DSL channels (Figures, 9 & 10a, col. 7, line 26-67, col. 21, line 10-51, col. 25, line 9-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement the use of DS3 input signals and DS1 output signals as taught by Cadieux with the combined teachings of Murdock and Jones protection switching system for the purpose of further minimizing path delay, increase transmission efficiency, as well as provide high power transmission as associated in a protection switching system.

Regarding claim 47, as indicated above, Murdock discloses a single input multiplexer which output a plurality of separate output signals via plurality of corresponding outputs and their associated communication paths (plurality of main paths), such as amplifier channels, data is routed through amplifier channels of redundancy rings (redundancy path) and are coupled by controllable output switches, each redundancy ring comprises of a plurality of paths that amplify

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signals derived from the outputs of the input multiplexer (col. 3, line 15-17, line 21-27, line 35-37, and Cadieux discloses performance monitoring in a protection-switching environment, wherein fault protection utilizes secondary/redundant paths (Abstract), incoming signals are DS3 and DS1 are outgoing signal, and utilizing DSL channels (Figures, 9 & 10a, col. 7, line 26-67, col. 21, line 10-51, col. 25, line 9-22). Although Murdock fails to teach coupling an output signal from a multiplexer to a faulty transmission path, Cadieux further discloses output signals associated with DS1 multiplexer routing data to secondary path/redundant path in fail-safe transmission (col. 7, line 15 thru col. 8, line 57, col. 25, line 10-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement re-routing output signals from a faulty path to a secondary path as taught by the use of DS3 input signals and DS1 output signals as taught by Cadieux with the teachings of Murdock protection switching system for the purpose of further minimizing path delay, increase transmission efficiency as associated in a protection switching system.

Allowable Subject Matter

1. Claims 11-46 and 57-70 are allowed over prior art.
2. Claims 6, 7, 10, 48-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Although the prior art discloses communication systems that implement protection switching techniques and mechanism whereby redundant/backup paths are utilized in case of a fault occurring for the purpose of providing continuous transmission in a communication system, they fail to teach or suggest, with respect to claim 6, management unit coupled to control the multiplexer and the remote circuit, the management unit having a memory to store switching

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data, with respect to claim 10, line unit for each transmission path to provide an asynchronous DS1 interface with the DSL and a remote unit for each transmission line to provide an interface from DSL interface back to DS1 at customer premise, with respect to claim 11, a controller card coupled to control plurality of relays, wherein the control card is coupled to receive control signals from the management unit, with respect to claim 11, a controller card coupled to control the plurality of relays, wherein the control card is coupled to receive control signals from management unit, with respect to claim 22, the remote circuit having a switch relay for each standard transmission path, each switch relay is coupled to an associated standard transmission path, each switch relay having a first position to provide a connection to a subscriber and a second position to provide a connection to a redundant transmission path with respect to claim 36, a remote shelf enclosure having a remote unit card having a remote unit removably coupled in the protection remote unit slot, a protection switching controller card having a protection switching controller removable coupled in the protecting switching controller slot, with respect to claim 48, replacing faulty transmission path with a plurality of relays at a remote circuit, with respect to claim 51, passing the control commands through an embedded operating channel to an associated remote unit in the transmission path, passing the control commands through an automatic protection switching bus to a controller card in a remote circuit that controls the relays and selectively positioning the relay in response to the control signals, with respect to claim 57, coupling the redundant transmission path to an end portion of the standard transmission path with errors at the remote circuit, wherein the signals directed to the standard transmission path with errors are routed around the standard transmission path, with respect to claim 66, a remote circuit including a remote protection remote unit card having a protection remote unit removable coupled in the protection remote unit slot and selectively

coupling a protection switching controller in a protection controller slot, and selectively coupling a protection remote unit in a protection remote slot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

July 10, 2006


CHI PHAM
SUPERVISORY PATENT EXAMINER

7/17/06